



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,575	05/14/2004	Paul A. Manfredi	BUR920030054US1	3574
29154	7590	06/12/2007		
FREDERICK W. GIBB, III Gibb & Rahman, LLC 2568-A RIVA ROAD SUITE 304 ANNAPOLIS, MD 21401			EXAMINER WATSON, JOY L	
			ART UNIT 1709	PAPER NUMBER
			MAIL DATE 06/12/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/709,575

Applicant(s)

MANFREDI, PAUL A.

Examiner

Joy Watson

Art Unit

1709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>14 May 2004, 05 Oct 2004</u> | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1709

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (Claims 1-14) in the reply filed on May 8, 2007 is acknowledged. Claims 15-20 have been withdrawn from consideration.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (US Patent 5,868,843 known hereafter as '843) and in view of Mahvan et al. (US Patent 5,614,071 known hereafter as '071).

Claims 1 and 8

Art Unit: 1709

'843 teaches a holder (21) for holding a rotating a semiconductor substrate (22), a shield for the substrate (27) where the surface of said shield is semi-permeable (31), and a dispenser (24) to dispense solvent (cleaning fluid) on said substrate (12) (col. 2 lines 40-67). '843 does not teach that the shield surrounds the substrate. At the time of the invention one of ordinary skill in the art would have known that the fluid dispensed on said substrate would splash and bounce back onto the substrate ('843 col. 2 lines 18-22) and the particles that bounce back are undesirable. '071 teaches shields (Fig. 1 items 26, 28, 30) that surrounds the substrate in order to capture sputtered material and prevent it from being deposited on the substrate (col. 1 lines 60-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the shape of the shield (which completely surrounds the substrate) as taught by '071, in the shield of '843, since a shield which completely surrounds the substrate captures extra material and prevents it from re-depositing on the substrate.

Claims 2-3, 9-10

'843 and '071 teaches the apparatus according to Claim 1. Additionally '843 teaches that the semi-permeable material prevents fluid ejected from the surface of the rotating substrate from forming into a mist and being re-deposited back on said substrate (col. 3 lines 1-8). "The mist comprises said fluid and foreign material particles" in Claim 3 carries no patentable weight because Claim 2 recites that the shield "prevents a mist from forming". Thus, the claimed mist is not a positively recited structural feature of the claimed apparatus.

Art Unit: 1709

Claims 4 and 11

'843 and '071 teaches the apparatus according to Claim 1. Additionally '843 teaches that the semi-permeable material is a sponge (31) (col. 2 lines 54-67).

Claims 5 and 12

'843 and '017 teaches the apparatus according to Claim 1. Additionally it teaches that the semi-permeable material can be removed from said shield (col. 3 lines 35-39). It does not explicitly teach that the material is disposable, but it does teach that the semi-permeable material can be removed for maintenance when desired (col. 3 lines 37-39) because the semi-permeable material is capable of being removed it is disposable because it can be throw away. Additionally '843 teaches the semi-permeable material can be removed; therefore, it is able to be replaced if desired.

Claims 6 and 13

'843 and '071 teaches the apparatus according to Claim 1 where the semi-permeable material is a required to prevent the liquid material from forming a mist and re-depositing the mist on the wafer (col. 2 lines 18-22). '843 teaches that the semi-permeable material is attached to the mounting plate and stays in place during use. The material is permanently attached so as not to be removed until the equipment is down for maintenance and therefore not a temporary structure which is replaced after a single use or during use of the equipment.

Claim 7 and 14

'843 and '071 teaches the apparatus according to Claim 1 where the semi-permeable material is a sponge. This apparatus rotates and dispenses a fluid on said substrate the excess fluid will be flung onto the sponge. It is inherent that the sponge will collect said fluid. The fluid will then begin to drain down said semi-permeable material due to gravity.

Objections

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

Art Unit: 1709

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract is longer than 150 words. Correction is required. See MPEP § 608.01(b).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US PG Pub 2003/0085121 A1 is noted for the mesh shield. US Patent 6,807,972 is noted for the shield and splash guard.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy Watson whose telephone number is 571-2701267. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1709

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLW

JLW



MICHAEL B. CLEVELAND
SUPERVISORY PATENT EXAMINER